



WORKPLACE SAFETY AND HEALTH IN TENNESSEE



*From The
National Institute for Occupational Safety and Health*

State Profile 2002

*Delivering on the Nation's promise:
Safety and health at work for all people through prevention.*

The National Institute for Occupational Safety and Health

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in Tennessee.

The Burden of Occupational Illness and Injury in Tennessee

- In Tennessee, there are approximately 2.7 million individuals employed in the workforce.¹
- In 2000, 160 workers died as a result of workplace injuries.²
- The transportation and public utilities industry had the highest number of fatalities, followed second by services, and third by manufacturing.²
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 5.7 deaths per 100,000 workers – above the national average rate of 4.5 deaths per 100,000 workers.²
- In 2000, there were 140,900 nonfatal workplace injuries and illnesses in Tennessee.³

The Cost of Occupational Injury and Illness in Tennessee

In 2000, the most recent year for which data are available, a total of \$588.5 million was paid for workers' compensation claims by Tennessee private insurers and self-insured employers.⁴ This figure does not include compensation paid to workers employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

How NIOSH Prevents Worker Injuries and Diseases in Tennessee

Health Hazard Evaluations (HHEs) and Technical Assistance

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 42 requests for HHEs in Tennessee in a variety of industrial settings, including the following example:

Middleton, Tennessee: Exposures During Welding and Laser Cutting

In 2000, NIOSH responded to a joint management/union request for an HHE at an elevator manufacturing facility in Middleton to determine if welding and laser metal cutting processes were related to workplace exposures causing employees to experience muscle weakness, tingling fingers, weight loss, gastrointestinal symptoms, neurological symptoms, and chronic sinusitis. NIOSH concluded that worker exposure to total welding fume and manganese was in excess of established criteria; in one area, lead exposure was in excess of regulatory criteria. The temporal patterns of gastrointestinal symptoms and chronic sinusitis were consistent with workplace exposure; however, no exposures were found that would explain these symptoms. While manganese levels measured would not result in the neurologic symptoms observed, higher past exposures or chronic exposures may have accounted for these symptoms. NIOSH recommended providing respiratory protection, improving ventilation, conducting additional monitoring, utilizing welding shields, modifying the laser cutter, and reducing carbon monoxide emissions.

Fatality Assessment and Control Evaluation (FACE) Investigations

NIOSH developed the FACE program to identify work situations with a high risk of fatality and to formulate and disseminate prevention strategies. Since 1995, eight FACE investigations have been conducted in Tennessee, including the following example:

Tennessee: Plumber Gets Crushed Between Lift Platform and Mobile Home Frame

On March 11, 2002, a 32-year-old male plumber for a mobile home manufacturing company was working under a mobile home that was nearly finished. The company's lift operator, who had not seen the victim go underneath the home, began to raise the home, crushing the victim between the lift platform and the frame of the home. The victim was airlifted to a hospital where he was pronounced dead later that day. NIOSH investigators concluded that employers should: incorporate specific safe operating procedures into their lift safety policy, including individually assigned locks and keys to secure control devices; train all workers in these procedures; and evaluate and upgrade systems that warn workers of changing conditions that may affect their safety. As a result of these recommendations, the company implemented several safety measures including: an alarm that sounds when the operator's key is placed in a lift's power panel; a strobe light placed on each lift that is activated when the lift is turned on; yellow and black diagonal warning stripes placed on all lifts; and two additional workers who, along with the lift operator, are assigned to visually inspect the area under the lifts before they are activated.

Fire Fighter Fatality Investigation and Prevention Program

The purpose of the NIOSH Fire Fighter Fatality Investigation and Prevention Program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. NIOSH uses data from these investigations to generate fatality investigation reports and a database of case results that guides the

development of prevention and intervention activities. Since 1997, there have been three fire fighter fatality investigations in Tennessee, including the following example:

Tennessee: Volunteer Fire Fighter Killed and Career Chief Injured During Residential Fire

On March 1, 2002, a 21-year-old male volunteer fire fighter died after becoming separated, disoriented, and lost as he, the chief, and other fire fighters were responding to a house fire. The chief also was injured. NIOSH recommendations to fire departments included ensuring that: incident command thoroughly evaluates an incident before initiating fire fighting efforts and continually evaluates operations at an incident; adequate numbers of staff are available to operate safely and effectively; evacuation signals are used when fire fighters need to be evacuated from a burning building or other hazardous area; a separate incident safety officer, independent from the incident commander, is appointed; and fire fighters are equipped with radios that maintain communication with incident command under field conditions.

Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at <http://www.cdc.gov/niosh/homepage.html> or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).

¹U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

²DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

³DOL, BLS in cooperation with participating state agencies, Survey of Occupational Injuries and Illnesses, 2000.

⁴National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates*, May 2002.